

Beaver



Nature's Call

An Activity Newsletter for Kids by Utah's Project WILD--Fall/Winter2001



Porcupine

Better Known Rodents of Utah: The Beaver, Porcupine and Pocket Gophers

Most kids have learned to recognize a beaver or a porcupine. A beaver is known as a big, furry animal with a large, flat tail. A porcupine, kids know, is covered from head to toe with sharp, spiny quills. Some kids even know what a pocket gopher is, or at least have seen some of the mounds of dirt they make.

All three of these animals belong to a group of mammals called **rodents**. Rodents are a very large group of mammals with over 1,800 species. Besides, beavers, porcupines and pocket gophers, the group includes all sorts of mice, rats, squirrels, chipmunks and prairie dogs that live in North America. Rodents from other countries include gerbils, hamsters, guinea pigs, chinchillas and dormice. Some of these foreign rodents may be familiar to kids because they are often sold as pets in America.

Because there are so many rodents, in this issue of *Nature's Call*, you will learn about just three different kinds of rodents: beavers, porcupines and pocket gophers. Other types of rodents will be featured later.

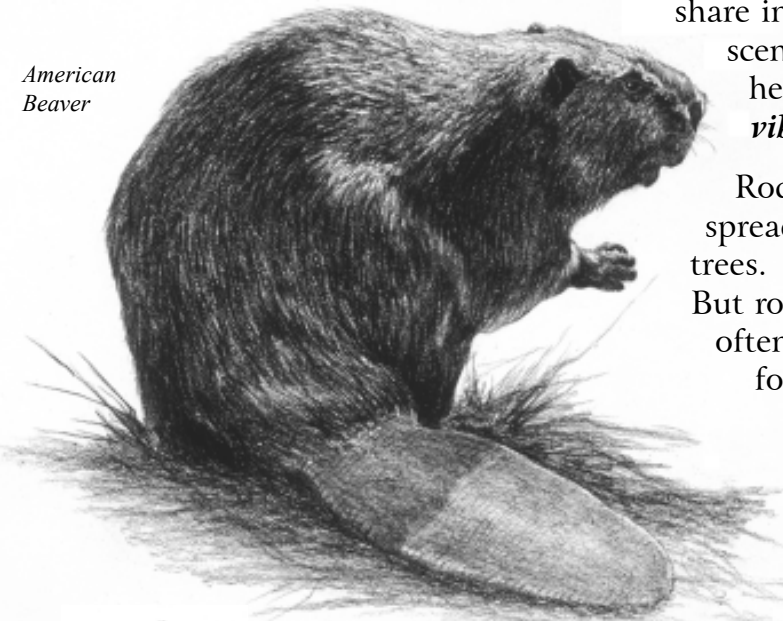
Rodents come in all sorts of shapes and sizes. The smallest are mice that weigh less than an ounce. The largest, the capybara of South America, weighs over 140 pounds. Rodents also live in many different kinds of places. One thing they all have in common though is their two front upper and lower pairs of teeth. These two front pairs of teeth are called **incisors**. Incisors are specially designed for gnawing hard objects. The groups' name, "rodent," relates to these teeth. It comes from the Latin word *rodere* which means "to gnaw."

Rodents need to gnaw all of the time because their incisors keep growing their whole life. If they don't gnaw, these teeth grow around in a circle and kill the rodent. Gnawing wears down the front teeth. It also keeps them chisel-sharp. This is because the front surface of the incisors is harder than the back surface.

Rodents also have special grinding molars in their cheeks and very strong jaw muscles. These make them very good **herbivores** (plant eaters). Rodents have a good sense of smell too. They share information with each other through odors from scent glands they have. They also have very good hearing and have long, sensitive whiskers called **vibrissae** to help them feel their way around.

Rodents have played big roles in history. Some spread diseases and some feed on crops, grains and trees. Because of this, people consider them pests. But rodents help us out in many ways too. They are often used in medical research, and some are trapped for their valuable fur. They are also food for predators such as hawks, owls, coyotes, foxes and bobcats, and in some places, people too.

American Beaver



CAROL BRIDGES

**Read on to learn more about
Beavers, Porcupines and Pocket Gophers!**

Adaptations: The Right Stuff

On the low end, scientists estimate there are about five million different species of plants and animals living on Earth. All of these species have unique sets of features and behaviors that set them apart from the others. These unique features and behaviors are called **adaptations** (a-dap-tə-shəns). Adaptations help living things survive in their environment. For example, one very important adaptation that humans have is a very large brain. A large brain helps us to survive because with a large brain we can learn to make and use things that help us live. We can design and use tools, build houses to keep us warm, grow our own food, make medicines and much more. All other animals have adaptations that help them survive too. These adaptations do not come before an animal decides where to live. Instead the adaptations they have are shaped, over generations of time, into the “Right Stuff” for surviving in the environment that each lives in.

There are two main types of adaptations: **physical** and **behavioral** adaptations. Physical adaptations are the features or traits that an animal has. Some of these features or traits can be observed (how the animal looks, feels, smells, etc). Others are the ways the animal’s body works (such as how it digests food or controls its body temperature). Behavioral adaptations are how an animal behaves—basically what it does (like how it finds and eats food, how it defends itself, or how it cares for its young).

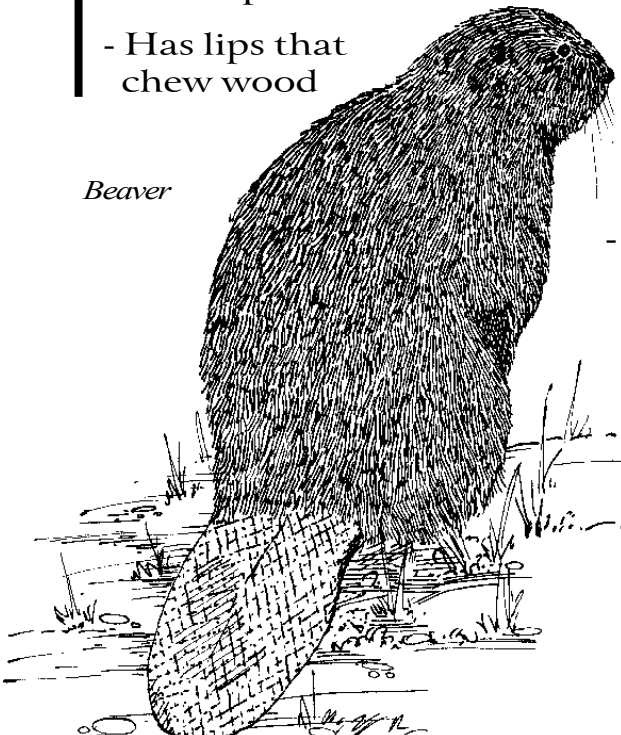
Imagine that you are a beaver living in a pond, a porcupine that lives in the forest, or a pocket gopher that lives underground. Each lives in a different type of environment so each has a different set of adaptations to help it survive. Read below about the “Right Stuff” of each of these unique adaptations as you go. When you have finished reading about each of these rodents, pick one and write a story about it

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American Beaver: *Castor canadensis*

- Lives in a deep pond that does not freeze all the way through in winter.
- Builds a dam with logs and mud to create its pond.
- Has sharp, chisel-like teeth for chopping down trees.
- Builds a lodge or bank den which opens from below into the pond for shelter.
- Has a big, flat tail that acts like a rudder while swimming and webbed hind feet to swim fast.
- Slaps tail on the water’s surface as a warning when a predator such as a bear or mountain lion is near.
- Has special clear eyelids to protect its eyes while swimming and flaps that cover its ears and nostrils to keep water out.
- Has lips that seal behind its teeth to let it chew wood while under water.

Beaver

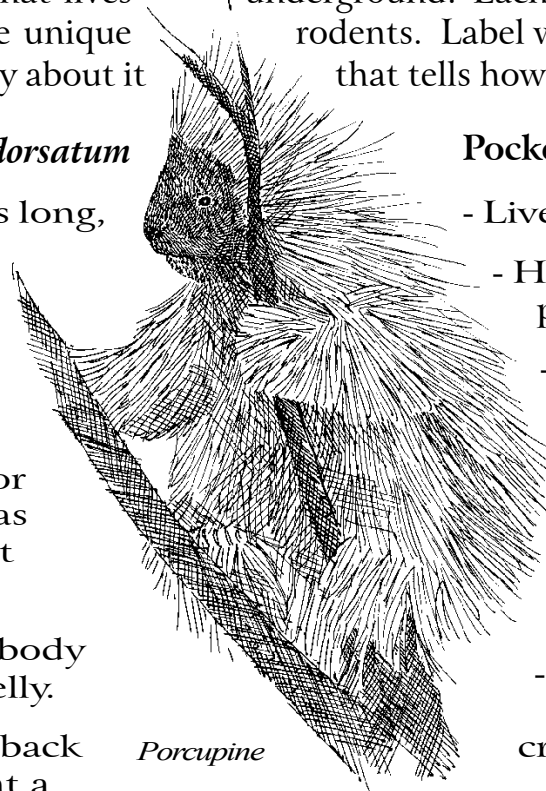


- Has extra large lungs to hold lots of air during long dives.
- Has fur with a dense inner layer to keep it warm and dry, and an outer layer that sheds water.
- Spreads oil from a special gland near the base of its tail on its fur to waterproof it.
- Eats leaves, twigs and inner bark of trees. Stores branches at the bottom of its pond for winter.

American Porcupine: *Erethizon dorsatum*

- Forest resident famous for its long, sharp quills it uses for defense.
- Has up to 30,000 quills shaped like round toothpicks, and measuring up to four inches long.
- Quills yellowish-white in color and dark tipped. Each tip has backward pointing barbs that make them hard to pull out.
- Has quills covering all of its body except its nose, throat and belly.
- When threatened, arches its back and raises its quills to present a pincushion of prickly quills.
- If attacked, whips its spiny tail around to embed painful quills into its enemy.
- Has long, curved claws and knobby gripping pads on its feet to help it climb trees.
- At night eats buds, needles and inner bark of the trees it climbs. Rests in the crotch of a tree or in a den during the day.
- Gets salt it likes from chewing on things people have touched with sweaty hands like wooden tools or leather straps.
- Gets other needed minerals by chewing on antlers of deer, elk or moose.

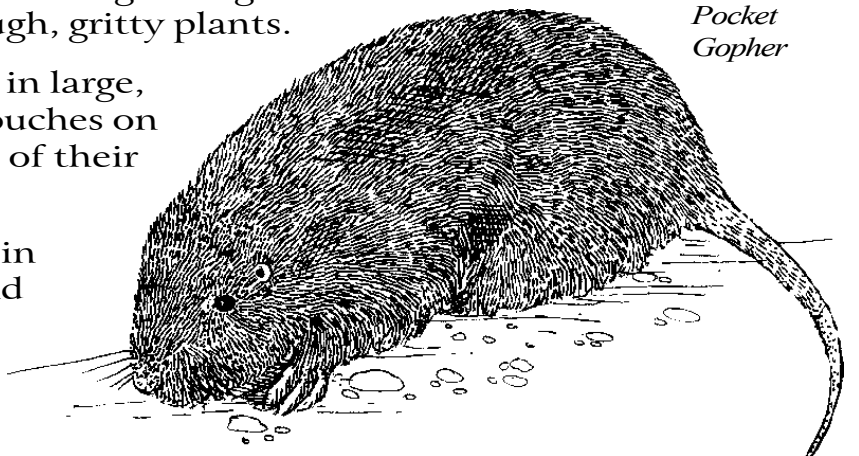
Porcupine



Pocket Gophers: *Thomomys sp.*

- Live in underground burrow systems.
- Have tube-shaped bodies, strong necks and powerful legs.
- Have long whiskers to guide them through dark tunnels and a nearly hairless tail with a sensitive tip that helps when moving in reverse.
- Have long, sharp claws to dig tunnels in the ground. Use brush-like bristles on front hands to sweep along in tunnel.
- Use forearms and chest like a mini bull dozer to shove dirt out of their tunnels creating fan-shaped mounds.
- Plug openings to burrows with soil to keep out predators like snakes (but not badgers).
- Use chisel-like teeth to cut through underground roots. Eat roots and bulbs, plus whole plants they pulls down from above.
- Have special ever-growing molars to grind tough, gritty plants.
- Carry food in large, fur-lined pouches on the outside of their cheeks.
- Store food in underground chambers.

Pocket Gopher



Many Native American tribes used the quills from porcupines for decorations on their birch bark canoes, baskets, buckskin clothing and ceremonial adornments. They made beautiful designs with them and sometimes painted them to add color.

Toothpicks (the round kind, not the flat ones) are about the same size and shape as a porcupine quill. For this activity you will need a box of round toothpicks, tempera paints in a variety of colors, some thin, flexible cardboard, white glue, some string, scissors and a small paint brush.

First, look at some pictures of Native American artwork to learn about patterns and designs they used in their artwork. Here are some examples.



Then cut out a piece of cardboard in the shape shown for a neck ornament and/or an upper arm cuff (look at the two patterns below). Make sure the top to bottom length of the cardboard measures just a little longer than the length of your toothpicks.

Punch small holes where they are shown. Loop a piece of string through each hole for tying on the necklace or cuff when you are finished.

Carefully glue toothpicks onto the cardboard. Try not to get any glue on the upper side of the toothpicks. Let the glue dry.

Paint the toothpicks using Native American artwork designs. Let the paint dry.

Now wear your Native American porcupine quill adornments!

